March 2003 Monthly Progress Report

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Curator: *Natalie Jaquith*
Responsible Official: *Donald M. Sawyer, Code 633*
Last Revised: *Thursday, 03-Apr-2003 10:58:14 EST [NAJ]*

Task Assignment 99-001-00
March 2003

MANAGEMENT
GSFC ATR - Dr. J. Green
Raytheon ITSS Task Leader - L. Mayo
Raytheon ITSS Group Manager - L. Mayo

TASK OBJECTIVE: The non-personal services required under this task include performing all necessary functions to manage Raytheon ITSS contract staff supporting the Space Science Data Operations Office (SSDOO). The Raytheon ITSS management team will meet with the SSDOO management team to discuss significant events and contract highlights to be presented to upper management and Headquarters, and current contract issues and concerns.

SIGNIFICANT EVENTS:

- Staff held weekly senior staff meetings.
- Staff supported Botball by sponsoring two DC teams.
- Staff reviewed employee performance as part of annual evaluations.

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Last Revised: *Wednesday, 23-Apr-2003 09:58:15 EDT [NAJ]*

Task Assignment 99-003-00
March 2003

ASTROPHYSICS MISSION SUPPORT SERVICES
GSFC ATR - Dr. N. Gehrels
Raytheon ITSS Task Leader - Dr. J. F. Cooper
Raytheon ITSS Group Manager -

TASK OBJECTIVE: This task provides support and consultation services for the Compton Gamma Ray Observatory (CGRO) project scientist in areas of data management, analysis, and archiving for CGRP and for the HIC experiment on the Galileo spacecraft. This support includes attending GRO Science Working Group meetings, aiding target-of-opportunity decisions, monitoring the health of the spacecraft, and presenting GRO papers at scientific meetings. In addition, this task will provide consultation on data products from the HIC.

SIGNIFICANT EVENTS:

1. The Task Leader presented an invited talk on heliospheric weathering of comets at the "First Decadal Review of the Edgeworth-Kuiper-Belt - Towards New Frontiers" workshop in Antofagasta, Chile during March 11-14, 2003.

2. The Task Leader was listed as a collaborator on "The Space Physics of Life" themes on the proposal "Pathways to Habitable Worlds: The Astrophysics of Life" submitted by I. N. Reid (STScI) as a lead science team proposal to the NASA Astrobiology Institute.

3. The Task Leader prepared several viewgraphs on Jovian magnetospheric science objectives for presentation by K. Khurana (UCLA) at the first workshop of the Science Definition Team for the Jupiter Icy Moons Orbiter (JIMO) mission.

4. Software used to compute radiation dosage rates in icy materials, as on the surfaces of comets and the galilean moons, was corrected for problems arising in extension of the irradiation flux modeling to plasma energies.

5. Calculations with the above software were redone for inclusion in an upcoming planetary atmospheres proposal on heliospheric particle fluence modeling for application to irradiation of solar system bodies.

6. Task staff reviewed EGRET data from the following viewing periods for EGRET scientists: VP4270 files 9956-9962, VP4280 files 9969-9974, VP4290 files 9981-9987, VP5010 files 9994-10005, VP5020 files 10009-10021, VP5070 file 10053, VP5075 files 10063-65, VP5090 files 10072-83, VP5100 files 10085-6, VP5105 files 10090-6, VP5110 files 10103-11, VP5115, VP5130, VP5150 files 10139-45, VP5161 files 10160-2, VP5165 file 10167, VP5170 file 10150-59, and VP5185 files 10177-10205.

UPCOMING MILESTONES/EVENTS:

1. The Task Leader will prepare a new Raytheon ITSS proposal to NASA's Planetary Atmospheres program on interplanetary plasma and energetic particle interactions with selected solar system bodies including Mars, Titan, and comets in the Kuiper Belt and Oort Cloud. The proposal is due April 18, 2003.

2. The Task Leader will attend the Arctic Field Ice Conference for the Europa Focus Group of the NASA Astrobiology Institute at Barrow, Alaska during April 24-27, 2003.

PROBLEMS OR AREAS OF CONCERN: Task funding for EGRET support activities has been extended at least to the end of June 2003.

RELATIONS TO OTHER TASKS: Work on this task is being supplemented by support from the SSDOO project and by active research contracts at Raytheon ITSS from NASA's Jovian System Data Analysis and Planetary Atmospheres programs.

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Task Assignment 99-101-00
March 2003

AMASE-MOCHA-CONCAT DEVELOPMENT
GSFC ATR - Dr. C. Cheung
Raytheon ITSS Task Leader - E. Shaya
Raytheon ITSS Group Manager -

TASK OBJECTIVE: This task provides support for the development of the object -oriented data base multispectral astrophysics data catalog, AMASE (Astrophysics Multimission Archive Search Engine) as an interface to NASA's astrophysics data holdings. This effort is a collaborative one with the University of Maryland (UMD) Computer Science Department, and frequent interactions with UMD counterparts are expected. The general goal for this performance period is to develop the AMASE prototype into an astronomical search and discovery engine by expanding the data contents and augmenting the search capabilities. Work includes incorporating astrophysics data from other wavelength bands to complete the electromagnetic spectrum and developing procedures to access remote relational data bases.

SIGNIFICANT EVENTS:

1. Space Domain Task Force:
   a. Staff attended OMG meeting in Orlando, Florida.
   b. XML Space Telemetry and Commanding Exchange Language (XSTCE) was accepted as a recommendation for finalization to a public standard at OMG.
   c. Staff now officially on the Finalization Task Force for XSTCE standardization.

2. Inter-Satellite Exchange:
   a. Staff presented high level query language to working group.

3. ANTS:
   a. Staff attended weekly design meetings for ANTS.
   b. Staff worked on proposals for NRA: Research in Intelligent Systems.
   c. Staff worked on simple example of mulitagent utilization function.

UPCOMING MILESTONES/EVENTS: Finalization of XSTCE expected in three months.

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Task Assignment 99-110-00
March 2003

AUTONOMOUS TECHNOLOGY
GSFC ATR - Dr. M. E. Van Steenberg
Raytheon ITSS Task Leader - R. Dunlap
Raytheon ITSS Group Manager -

TASK OBJECTIVE: The objective of this task is to support the development of a simulation environment that supports autonomous distributed spacecraft control and test science collection techniques using artificial intelligence (AI) technologies. This work is in collaboration with the GSFC's Guidance, Navigation and Control Center and JPL's Automation and Control group. The contractor shall support the following activities and contribute to reports and white papers as appropriate: (a) evaluate Science Quick-Look Analysis Tools (e.g., HEASARC) for use as on-board analysis tools, (b) define Typical Science-Driven Maneuver Automation Requirements, (c) define Typical Science Automation Requirements, (d) define Basic System Architecture, and (e) develop rapidly a prototype to demonstrate key capabilities.

SIGNIFICANT EVENTS: No work was performed on this task during the reporting period.

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Task Assignment 99-113-00
March 2003

GLAST
GSFC ATR - R. Fink
Raytheon ITSS Task Leader - J. Palencia
Raytheon ITSS Group Manager -

TASK OBJECTIVE: GLAST is a multipartner gamma-ray survey mission with a GO observation component. The ADF will provide a prototype public archive design using Beowulf and other related technology. The prototype will implement the archive design using the Compton Gamma Ray Observatory EGRET data set. The contractor shall provide personnel to support the following tasks: (1) systems administration support of the Beowulf cluster and (2) programming support as requested for implementing the archive prototype.

SIGNIFICANT EVENTS:

- Staff integrated PVFS into LACE, tested LACE implementation on the development, storage and execute nodes of the THUNDERHEAD Beowulf Cluster. and gave customized user accounts for THUNDERHEAD testing.
- Staff designed the 14.4 Terabyte raided Parallel filesystem storage system to be used for THUNDERHEAD and MEDUSA Beowulf Clusters.
- Staff prepared the technical specs for the Terabyte raided PVFS system that was submitted for SEWP Procurement.
- Staff acted as liason between Terabyte vendor/integrator and NASA's Code 930.
- Staff attended the Linux Cluster Institute workshop at University of Illinois' National Center for Supercomputing and Applications (NCSA) from March 23-28, 2003.
- Staff provided technical and system administration support for HPC's Beowulf Clusters (MEDUSA & THUNDERHEAD).
- Staff provided technical and system administration support for MEDUSA Workstations (porpoise, bohr, frio, namche).
- Staff provided technical and system administration support for the BLISS Beowulf Cluster.

UPCOMING MILESTONES/EVENTS:

- Staff is to research and evaluate LUSTRE file system for implementation on THUNDERHEAD's Terabyte storage.
- Staff is to research and evaluate Clumon for implementation on the BLISS Beowulf Cluster.
- Staff is to create a user graphical GUI for LACE for HPC's Beowulf Cluster, THUNDERHEAD.
- Staff is to assemble four new replacement cluster nodes for the MEDUSA Beowulf Cluster.
- Staff is to create a user graphical GUI for LACE for HPC's Beowulf Cluster, THUNDERHEAD.
- Staff continues to write and work on thesis.

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Task Assignment 99-201-00
March 2003

IMAGE
GSFC ATR - R. Burley
Raytheon ITSS Task Leader - C. Klipsch
Raytheon ITSS Group Manager -

TASK OBJECTIVE: The objectives of the IMAGE Mission Data System task are to develop, test, and maintain the IMAGE Web data access and display system, the IMAGE data processing system, and the IMAGE data distribution system.

SIGNIFICANT EVENTS: No work was performed on this task during the reporting period.

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Task Assignment 99-202-00
March 2003

MAGNETOSPHERIC MODELING AND ANALYSIS
GSFC ATR - Dr. S. Fung
Raytheon ITSS Task Leader - Dr. L. Tan
Raytheon ITSS Group Manager -

TASK OBJECTIVE: This task calls for (1) the performance of analysis supporting the development of a new generation of trapped radiation, (2) the documentation and analysis support in an ongoing SSDOO research program on the outer magnetosphere, and (3) ISTP campaign coordination.

SIGNIFICANT EVENTS:

1. Task staff created a low-resolution version of the magnetospheric state parameter database, in which only the values of various parameters in the hour resolution are contained. Then modified the test query script and the interface on the Decaf server to permit querying against either the high-resolution or the low-resolution magnetospheric state parameter tables.

2. Task staff ingested the hourly-averaged AE values into the low-resolution magnetospheric state parameter table. He further modified the AE ingest script to emit a SQL file containing the hourly-averaged AE values to replace the one-minute averaged values in the low-resolution table.

3. In order to organize the low-altitude trapped particle observations task staff developed a new coordinate system in which the features of a dipole magnetic field near the surface of Earth are incorporated. The physical implication of newly defined coordinate axes is then clarified.

4. Task staff prepared three posters entitled "Characteristics of quiet-time trapped radiation environment deduced under the extremely quiet magneotospheric state condition" (authors: S. F. Fung et al.), "Azimuthal locations of relativistic-electron injections determined from drift echo analysis" (authors: L. C. Tan et al.), and "Simulating the transport of the energetic equatorial particles to the cusp region from the global MHD simulation outputs" (authors: X. Shao et al.), which are to be presented in the EGS-AGU-EUG Joint Assembly 2003 to be held on April 6-11, 2003 in Nice, France.

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Task Assignment 99-203-00
March 2003

SPACE SCIENCE VISUALIZATION FACILITY
GSFC ATR - Dr. R. Kessel
Raytheon ITSS Task Leader - J. Friedlander
Raytheon ITSS Group Manager -

TASK OBJECTIVE: The task of the Space Science Visualization Facility within the SSDOO is to support the SSDOO education and outreach activities, scientific analyses, and IMAGE mission activities. Members of the facility will need to work closely with the space science community in order to create appropriate space science videos, illustrations, and displays and to develop overall approaches and procedures for the maintenance of the task.

SIGNIFICANT EVENTS:

1. Staff has completed the Lab Move. The visualization lab has returned to its second floor roost. The work was completed in early March and the full move took 1.5 weeks.

2. Staff has completed the following Web work:

   a. Vislab

      The first version of the SSVL website has been launched. It is populated with various types of graphics and animations. Staff will continue add content. Animation staff compressed and posted 15 animations for SSVL website.

   b. SED

      Staff has made updates and additions to the site for Sun Earth Day. Staff has been working on the portion of the site that requires the updating and listing of events, results, etc. of Sun-Earth Day. Staff has begun to reorganize the sun earth server for Sun-Earth Day.

   c. DPS

      Staff has delivered the final DPS site to L. Mayo and he will forward the site to the responsible party.

   d. INSPIRE

      Staff has completed updates to the INSPIRE web site for Dr. Bill Taylor.

3. Staff took delivery of and integrated new tech equipment to increase lab capabilities.

   a. Assembled and configured 1.5 TB Mass Storage-device.

   b. Set up new HP 5500 DN 12x18 duplex printer.

   c. Configured and hosted SSVL website on new X-Server.

4. Staff attended SECEF symposium in Baltimore, Maryland. Staff will set up short-term cooperative effort with SSVL and SECEF for future space science EPO activities.

5. Staff assisted several scientists with creating and printing posters for AGU. Printed poster for SOHO, IMAGE, and others.

6. Staff upgraded the Task Request system to allow the Vislab to go operational on 01 April 2003. Modified the .ht-access files on the Task Request system to allow assignment and updates by Vislab personnel. Staff added two new users' account to the Vislab group for the Task Request system.

7. Staff illustrated 12 figures for the Space Science Data Operations Office (SSDOO) Chief to be used in an upcoming publication. Illustrated eight figures for Raytheon ITSS personnel depicting the force of the magnet to be published on the World Wide Web (WWW). Revised 10 figures for Raytheon ITSS personnel to be used in an upcoming publication.

8. Staff is compiling images and information to be included in an upcoming SSD effort to create a 15-month calendar for national distribution.

9. Staff is assisting the data archive in setting up a digital camera and light source to record mass quantities of microfilm data. Staff will instruct members of archive staff in camera operation.

10. Staff finally completed all work on Astro-data card which sent to printer for final production.

UPCOMING MILESTONES/EVENTS:

1. Staff will assist SSD director with presentation to congressional staff.

2. Staff will finish setup and instruction for microfilm digitization effort.

3. Staff will complete mockup of SSD calendar.

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Task Assignment 99-204-00
March 2003

SPACE PHYSICS SOFTWARE DEVELOPMENT, SYSTEM MAINTENANCE, AND SPECIAL PROJECTS
GSFC ATR - Dr. R. McGuire
Raytheon ITSS Task Leader - T. Kovalick
Raytheon ITSS Group Manager -

TASK OBJECTIVE: The objectives of the space physics development task are to design, develop, document, support, and promote the re-engineering of the SSC Software Systems and the CDAW Graphics Systems. These software systems will support Satellite Situation Center (SSC) Operations, ISTP SPOF, SPDS, STEP, other NASA projects, and the space physics community in general. Accomplishing this objective requires maintenance of the software in both a UNIX and VMS environment, use of appropriate software development tools and methods, development of concise documentation, definition of new magnetospheric field and region models, and communication with scientists and end users both at the NSSDC and in the larger space physics community to ensure that their needs and requirements are being met. This task will work closely with the CDF/graphics task to fulfill its responsibilities. CRUSO in particular will play an important user support role for both SSC and the CDAW Graphics System. It will serve as the first point of contact for users, distribute documentation, answer simple questions, and forward software and science questions to this task and to SSC Operations.

SIGNIFICANT EVENTS:

1. Work on CDAWeb Software: Staff continue working on the design work to support the CDAWeb "services" interface. Staff completed working with the IMAGE/RPI staff and further enhanced the plotting and listing capabilities for these datasets. Staff continued reviewing and cleanup work on the CDFX suite of software and completed work on some requested enhancements. Staff continued testing the software developed to implement a cdf merge/subset capability. Staff discovered, and is in the process of fixing, a few problems with the plot_map_images software with regard to the Polar VIS and UVI datasets. Staff continued investigating the geographic registration plotting problem with the Polar UVI/VIS image data. Staff continue to work with the acquisition science staff in order to more rapidly bring configure and bring in new datasets to the system.

2. Work on SSCWeb Software: Staff assisted the SSC operations staff in reconfiguring the LANL loader ready file generation software.

3. CDAWeb Statistics: The statistics include GSFC, RAL, ISAS and EDC: CDAWeb fulfilled 7,591 plotting requests, 5,583 ASCII listing requests and 428 CDF delivery requests, where each request can contain more than one plot/listing/file; (RAL: 15, 5, 6), (ISAS: 36, 11, 6) and (EDC: 10, 4, 3); there were 117,825 total accesses (14.4Gb; 65,628 CDFs and 15,177 gif files produced) to the CDAWeb HTTP Server. The anonymous ftp site delivered 9.4 Gb of data; 24,865 CDF files and 13 software/document files to non-staff users. The "overall" ftp statistics file was updated and can be found at http://cdaweb.gsfc.nasa.gov/cdaweb/logs/FTPaccumulative_record.html. The monthly web server and ftp statistics files can be found at http://cdaweb.gsfc.nasa.gov/cdaweb/logs.

4. SSC Statistics: Usage statistics from ubatuba, are as follows: There were 49 accesses of the SSC Version 3.0 Main Menu; Locator was executed twice; Query was executed once; the Data Base listing was not accessed; the Calculator was executed twice; the File Output option of the system was executed 49 times and the FTP option was executed 34 times.

5. Usage statistics for the Web-based versions of SSC Query and SSC Locator programs are as follows: The query_server was executed a total of 110 times; the tabular_server was executed a total of 643 times; the graphical_server was executed 1,881 times for a total of 2,634 accesses, excluding developers. In addition, the SPOF accessed the systems 24 times; SSC Operations staff accessed the systems 9 times. The SSC Web pages (main page as well as any GIF, user's guide, etc.) were accessed 9,170 times, with 78 accesses by SPOF staff and 44 accesses by SSC Operations staff. The new TIPSOD application was accessed 274 times with 973 accesses to the database.

6. Mirror Sites: RAL, ISAS and EDC are retrieving their provided data and software updates on a regular basis through their FTP accounts. Occassionally ISAS and RAL experience connection problems, so we have to alert them to this, and usually they correct the problem within day or so. Usage statistics were received from RAL, ISAS and EDC this month; these numbers were incorporated into the CDAWeb statistics listed above. An initial email message was sent to the Brazilian scientists who are interested in hosting a mirror site.

7. Ingest/operational activities: The CDAWeb metadata generator and inventory plot generation software are being executed nightly. As part of this process, any new MAP, IMAGE, LANL, GOES, ACE, FAST, Polar, ISIS, Cluster and PWG (the new Polar/Wind/Geotail replacement for the CDHF) files are being "ingested" as well. In addition, the master cdf "notes" web pages were updated each week.

UPCOMING MILESTONES/EVENTS:

1. A new RAID disk tower for the rumba machine is expected soon; plans are being made for its optimal configuration.
2. Staff will continue to work with the IMAGE project personnel to validate the CDAWeb displays of the IMAGE data.
3. Staff will continue testing and maintenance on CDAWeb and testing/enhancing all of the plotting and listing software.
4. Staff will continue testing, modifying, and documenting the CDAWlib software and associated Web pages.
5. Staff will continue testing and maintenance of the SSCWEb system.

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Task Assignment 99-205-00
March 2003

SPACE PHYSICS DATA ACQUISITION AND VALUE-ADDED SERVICES
GSFC ATR - Dr. R. McGuire
Raytheon ITSS Task Leader - Dr. H. Hills
Raytheon ITSS Group Manager - T. Kovalick

TASK OBJECTIVE: The objectives of this task are four-fold: 1. to support space physics and information acquisition for NSSDC, including support for ingest to the near-line/on-line archive and/or for distribution as CD-ROMs; 2. to support value-added space physics services, including operation of the SSC, creation of new composite space physics data/model products, definition of science user requirements for SSDOO systems and other NSSDC data and information systems, and science-expert support for other efforts such as IACG and SPDS as appropriate; 3. to carry out selected archival research and mission planning activities, including publication of results; and 4. to provide logistics support as directed for working meetings related to SPDS, including travel reimbursement.

SIGNIFICANT EVENTS:

1. DIONAS INGEST:

a. ISIS: ingest has started again after several months of delay because of ongoing GSFC construction and because of the hospitalization and ultimate death of the main project programmer (B. Schar). The ISIS webpages and READMEs on nssdcftp were updated to reflect the fact that the CDF data are now available only from CDAWeb. A number of other corrections were made and the Radio Science paper describing the TOPIST program was made available online. Task staff are assisting B. Benson in getting the search page working for ISIS-1 data; currently only available for ISIS-2.

b. RHESSI:Ingest into DLT of the Level-0 data was started with a sample from the Project's website machine. The data will not go into NSSDCFTP in the near future. The sample retrieved by the Project was certified to be flawless by the Project staff. Soon all data for a full year will be ingested. Some usual problems were encountered, and solved in filling out the ingest form via the Perl command.

c. SAMPEX: All six usual datasets were routinely ingested into NSSDCFTP or CDAWeb successfully; no flaws.

d. Wind/WAVES: Routine ingest of all data continued flawlessly.

2. OTHER DATA INGEST:

a. A sample data set from the Space shuttle ISO instrument was received in IDL saveset format and was read and displayed with the help of IDL software from the ISO homepage. A task programmer is working with and acquisition scientist on creating CDFs for these ISO data.

b. Ulysses gamma ray data were for September 2002 to February 2003 were ingested via the new ftp_push ingest site and submitted to the off-line archive.

c. A large new Ulysses data set of high resolution energetic particle measurements from HISCALE was received on 260 CD's from T. Armstrong (Univ. of Kansas) and prepared for off-line archiving.

d. New particle data on the CDAWeb test site from the WIND 3DP experiment were reviewed by an acquisition scientist. Significant deficiencies in CDF metadata were identified.

e. CDFs were retrieved from the Wind 3DP web-site for the following subsets of 3DP data. The CDFs contained no global attributes and none/limited variable attributes. Master CDFs were created and test plots were produced before these data were placed into CDAWeb under sp-test. The subsets were pm, plsp, elsp, phsp, ehsp, sfsp, sfpd, and elpd.

f. New Polar CAMMICE IDL savesets were retrieved and new CDFs were created and placed into CDAWeb under sp_test for review. Numerous changes were made to the master, and many descriptive labels were shortened. Mare updates are needed, including global attributes.

g. After numerous discussions, the finished Polar_HYDRA CDFs were made available by the experimenters and we retrieved data from 1997-2002. These CDFs are being moved over to CDAWeb a year at a time. An additional feature was added to the autoscaled display_type for spectrograms, to better display this data set.

h. New wi_h1_swe (ion) CDFs were moved into CDAWeb under sp_test. Numerous revisions were made, mainly shortening labels and modifying descriptions to be unique and unambiguous for variables involving two different particle species and two different

analysis methods. Provider Lazarus (MIT) was notified that test CDFs are available for approval before making the data public online.

i. ISEE 3 hi-resolution mag data and revised processing programs were turned over to the Operations group to do the conversion from binary flat file to ASCII, gzip the result, and then ingest the -gz data via DIONAS. The original 8 CDs of data were put onto nssdcftp, not through DIONAS; the full data set of 33 CDs will be re-processed and ingested through DIONAS. The required ingest database entry has been made.

3. Data Set Contacts:

a. The University of Iowa has said that a CDROM with complete data from the AMPTE-IRM VLF experiment is on the way. Some weeks ago they had sent an incomplete CDROM. The ASCII version from it made here was then certified by U.Iowa as correct. Next to arrive will be an INJUN-5 CDROM, to be followed by data from eight more s/c. These VLF data will be entered as several unique data sets in NMC, rather than as a composite multimission dataset. None of these is worthy of NSSDCFTP; they will go into the DLT machine only. They pertain to scattered events that found a place in Don Gurnett's publications.

b. TIMED data archiving issues and potential use of CDAWeb for TIMED data were discussed in a meeting with the TIMED project team at APL. An example TIMED data file in netCDF format was received with GUVI data and was inspected with the help of an IDL read program obtained from the SEE site at LASP. The netCDF files were forward to D. Hahn, who is working on a netCDf to CDF converter.

c. A list of over 100 data sets from Ulysses, ACE, and Voyager was prepared for potential periodic ingest support by the operations group.

d. A task scientist and R. McGuire met with T. Sanderson (ESTEC) re data from Hynds' ISEE 3 instrument (-08). They have a full data set that he would like to archive here, on six CD-ROMs, in VAX backup format, plus about 100 paper plots of summary data. This could be scanned, and we'd give them electronic copies. The original data has several matrices, and we could probably well use the CDAWeb display capabilities. He also has event data for about a dozen or so events, and summary slides (spectrograms) of the whole run of data.

4. Support for data ingest: A programmer is modifying "cdfplot" software to enable the user to include a master when attempting to make a plot.

5. Support for offline-to-online move The list of special changes to be made to data set names to remove references such as "on magnetic tape" was submitted to C. Cain, and the changes have been implemented. Now P. Ross is working on the "automated" changes to be made, which will delete a variety of similar phrases from the trailing end of the data set names.

6. SPDAC SUPPORT Approximately 62 external updates into the SPDAC database were made during March, with at least one entry each for TIMED, SOHO, Voyager, ACE, RHESSI, and TRACE.. Many other updates were made by internal staff. A few problems were encountered by external staff, but all were ironed out satisfactorily.

7. Maintenance of NSSDC Information Databases:

a. Several JGR and GRL journals were reviewed and keyworded for TRF.

b. The links to the NMC were fixed on the ISTP pages.

c. Obsolete references to the NMC were fixed in SPACEWARN.

d. The tag was fixed in SPACEWARN.

e. Corrected the online documentation for the new IMP8 ascii 15-sec data.

f. Changed many data set names to remove references to data being on magnetic tape. More changes to come.

8. SSC Ephemeris

a. Ephemeris information was created and updated into the SSC's UNIX data base for 31 spacecraft. Files for four spacecraft were updated for the [ACTIVE.IACG.ELEMENTS] directory.

b. The journal "The Astronomer" of the British Astronomical Association carries an article on the successful identification of an unknown Near Earth Object as IMP 8. This was done by means of the RA/Dec observation by a German Amateur Astronomer for that NEO, and SSC's plausibly propagated IMP 8 orbit. One problem is that the German has not been able to provide enough observation covering a full orbit to enable synthesis of a better predictive Keplerian (by the FDF staff). The SSC has suggested to Code 632 Head to explore providing a small financial resource to encourage the astronomer to observe IMP 8 further.

9. The draft and final versions of SPX 592* were made available via WWW and FTP. SPX 593 was drafted and loaded online. It

carries stories on four spacecraft. As usual, a copy of that was emailed to COSPAR. One WDC SI announcement regarding the launch and assignment of an ID to one mission was sent by e-mail and posted to the Usenet News. No CCSDS IDs were assigned for future mission/simulation telecommunications.

10. MAINTENANCE AND UPDATING ON THE VARIOUS WWW PAGES:

a. ModelsWeb

1. New version of IRI-2001 model finally was installed through WWW.
(edit scripts, home pages, etc.)

Accesses for this month:
CGM 1462
IRI model 2747
MSIS model 2292
IGRF model 1779
TRAP particle model 346
T89 model 672
T96 model 142
Heliospheric Ephemerides 643
IMP-8 daily position ... 5

b. COHOWEB and OMNIWEB systems (data and software)

Accesses for OMNIWEB: plots/list/scatter: 958 / 779 / 6= 1743
Accesses for COHOWEB: plots/list: 149 / 126 = 275

c. ATMOWEB system and FTPHelper (graphical browsing & retrieve FTP data)

1. Acquired and ingested Vega-1,2 2-min resolution data from IZMIRAN (Russia) into FTP site

2. Corrected new Wind_swe 2-min res files, removing contaminated data.

FTPBrowse and ATMOWeb access this month (plotting/listing): 2006 / 478 = 1584

d. Bowshock project: 1. Processed new parameters for Geotail, Magion-4, Cluster -- creating multiple bowshock data base 2. Building of a new multiple BowshockWeb data system/interface for several spacecraft 3. Added sorting capabilities, and multiple selection of spacecraft

11. Special Support for OMNI-2: New files which include the Alpha/Proton ratio were generated: a. WIND hourly files b. LANL/MIT/ hourly shifted files c. LANL/MIT/WIND/ACE hourly shifted files

12. Meetings, Presentations, and Publications

a. D. Bilitza attended the Space Physics Data Dictionary Workshop at GSFC on March 19 and 20 representing the ITM science community.

b. A paragraph was prepared for Jim Green describing IRI-related research efforts to include in the SSDOO part of the GSFC NRC Postdoc brochure.

c. An announcement was submitted to the AGU SPA Newsletter describing the recent changes to the IRI software and the IRIWeb interface.

d. A paper was written describing the IRI model that is being proposed to become the ISO standard for the ionosphere. This was an invited talk presented in the ISO session during the 2002 World Space Congress in Houston, Texas.

e. K. Oyama presented a paper (D. Bilitza a co-author) during the Symposium on the Effect of the Ionosphere and its Use, March 11-12, Tokyo, Japan.

f. A task scientist gave an invited talk on heliospheric interactions with comets in the outer solar system at the Kuiper Belt workshop meeting in Antofagasta, Chile during March 11-14, 2003.

g. An abstract of a paper on the bowshock project was sent to the AGU/EGS meeting in France.

REQUEST HIGHLIGHTS:

a. Several requester were assisted with inquiries regarding ITM data and models. D. Lin (PR China Research Inst.) IRI Yaloo H. (Korea) IRI H. Hablani (Boeing) IGRF R. McLean (Caltech) AE/AP-8 S. Kusinsky (Smithsonian) MSISE90 G. James (CRC, Canada) ISIS data and worldmap program N. Kim (Boeing) AP-8 R. Ilma (Jicamarca, Peru) IRI and MUFES.

b. 6595 CRRES files were downloaded by users in March.

ACTIVITY LOG:

The NSSDC models sites on anonymous ftp and on the Web continue to be very popular:

ftpWWW

2002	RAID	Model	atm	geom	ion	rad	solar	CGM	IRI	MSIS	IGRF	TRAP	hpage
Jan	154622	4926	968	819	2377	324	273	1505	3399	8270	454	244	69610
Feb	116199	7092	1078	659	3651	619	525	1106	2322	41633	475	621	71078
Mar	164875	10177	1869	1462	4682	640	740	717	1659	5257	528	161	73074
Apr	245162	6863	1134	884	3665	353	319	899	2220	1162	1266	122	74803
May	275487	4426	754	537	2208	305	261	1050	8238	944	1346	93	76584
Jun	133327	6892	891	709	3693	388	371	47412641	1055	702	84	78218	

	ALL	Model	atm	geom	ion	rad	sol	IRI	MSIS	CGM	IGRF	TRM
Jul	230906	8669	1559	993	4133	538	499	645	4486	570	491	42
Aug	229827	6819	1234	934	2869	521	485	701	1953	983	510	65
Sep	184116	10238	2034	1123	4441	691	754	587	1832	811	449	543
Oct	252019	8551	1664	1209	3327	744	609	996	4055	1075	917	330
Nov	247324	9864	2019	1221	4213	577	777	6439	1573	1382	717	466
Dec	304514	10440	1882	1131	4707	770	711	1281	1801	1127	549	250
2003	ALL	Model	atm	geom	ion	rad	sol	IRI	MSIS	CGM	IGRF	TRM
JAN	262332	8413	1856	913	3524	582	715	1666	2045	715	677	150
FEB	301244	10566	2117	1389	4414	601	716	1768	1443	587	1545	171
Mar					2747	2292	1462	1779	346			

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	Files	GBy	Total	WWW	I	AE	Aer	DE	Exp	Hi	I/A	OGO	SM	SNOE
Jan	26,410	15.1	531.6	5640	I	1396	43154	11	44	13	47379	29035		
Feb	10,342	6.1	537.7	5736	I	25	5	371	3	22	836	8	29	4176
Mar	20,492	12.0	549.7	5917	I	179	18	48	99	83	78	27	17	14263
Apr	17,460	9.2	558.9	6057	I	50	215	15	5	22	1	5	16365	
May	19,126	15.4	574.3	6257	I	52	9	271	K34	30	15	19	213	2

------ ISIS ----------

	Files	GBy	Total	I	ITM	TOPIST	ATMOWeb
Jun	16,552	9.5	583.8	I	1,954	0	
Jul	17,192	14.9	598.7	I	1,908	65,255	
Aug	21,077	12.3	611.0	I	2,594	58,241	
Sep	15,419	8.3	619.3	I	1,805	928	
Oct	21,969	10.1	629.4	I	32,249	16,586	DE2/LAPI:11371, ISIS:19950
Nov	1,612	0.9	630.3	I	4,704	4	AE:3003 DE:993 ISIS:574
Dec	0	0	630.3	I			
Oct	21,969	10.1	629.4	I	32,249	16,586	DE2/LAPI: 11371, ISIS: 19950
Nov	1,612	0.9	630.3	I	4,704	4	AE: 3003 DE:993 ISIS: 574
Dec	0	0	630.3	I	18,326	2	AE: 18088
Jan	0	0	630.0	I	2,232	0	DE: 1826
Feb	0	0	630.3	I	13,189	0	AE: 3032 DE: 10039
Mar	1,423	2.4	632.7	I			

ITM: AE-C,D,E, Aeros, Alouette, ISIS, DE-1,2, Explorer 22, 31,32, Hinotori, SNOE, OGO-6, SanMarco

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WWW file and plot accesses for March 2003 (and the yearly totals) for interplanetary COHO-related data from COHOWeb, CDAWeb, and NSSDCFTP:
Deep Space (Ulysses, Voyager, Pioneer, etc.): 2,617 {2003 Total: 5,860}

Geospace (IMP-8, Prognoz, ACE, WIND, SOHO): 34,873 {2003 Total: 106,015}

UPCOMING EVENTS: 1. A task scientist will submit a new proposal to the NASA Planetary Atmospheres program on modeling of interplanetary plasma and energetic particle fluxes from ACE and Voyager experiments for application to irradiation of solar system bodies such as Mars, Titan, and the Kuiper Belt Objects.

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Task Assignment 99-301-00
March 2003

COMPUTER SYSTEMS MANAGEMENT TASK
GSFC ATR - C. Barrett
Raytheon ITSS Task Leader - J. Jacobi
Raytheon ITSS Group Manager -

TASK OBJECTIVE: The objectives of this task are to provide systems analysis and technical support to the operational computer activities of the NSSDC; to maintain existing hardware and system-level software to ensure the optimal performance and utilization of its resources and connectivity to its computing sites; to integrate new hardware and system-level software into existing systems to achieve upgraded capabilities and state-of-the-art facilities; to administer specialized software such as data base and optical disk management systems; and to provide users with the necessary documentation, training, and assistance so that NCF resources are fully utilized.

SIGNIFICANT EVENTS:

During March 2003, systems group personnel:

- Staff responded to sendmail security advisory by patching all sendmail servers in the environment.
- Staff assisted telecommuting staff member in resolving a security issue on their remote X server.
- Staff re-hosted the OSF1 /usr/local shared filesystem from rumba to dublin and created a private /usr/local for rumba.
- Staff moved the network shared IDL license server from rumba to nssdc.
- Staff recompiled sshd for dublin to fix utmp record size problem that was preventing the viewing of login records.
- Staff configured log rotation for Jove Archive web site logs to be in compliance with log retention policy.
- Staff upgraded the default Java SDK on rumba from 1.4.0 to 1.4.1-1.
- Staff began testing ldap, but have encountered some trouble setting it up on solaris 8.
- Staff added analog, a log file analysis program, to amase.
- Staff upgraded messier, wolfpack, and glissando. Waiting to schedule tarantella.
- Staff installed Java Webservers Development pack on Wolfpack.
- Staff upgraded Java on Irix, Wolfpack and Java. This is work in progress for the rest of the machines.
- Staff added swap space to moya.
- Staff fixed backup express problems on tarantella and wolfpack.
- Staff upgraded tomcat and apache on java and wolfpack.
- Staff fixed delphi so that the "last" command works (xwtmp was corrupt).
- Staff specified and collected quotes for a new Sun server to host the SSDOO Oracle database.
- Staff continued to perform routine system administrative duties, including backups, application of stupid and confusing software upgrades and patches, providing assistance to users, and maintaining the IP spreadsheets and equipment database.

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Task Assignment 99-302-00
March 2003

SYSTEMS NETWORKING AND SMALL SYSTEMS
GSFC ATR - G. Goucher
Raytheon ITSS Task Leader - R. Dunlap
Raytheon ITSS Group Manager

TASK OBJECTIVE: The objective of this task is to provide network engineering support to Code 600.

SIGNIFICANT EVENTS:

- Staff patched all Windows 2000 computers.
- Staff updated the Cisco IOS for 630 routers.
- Staff activated/deactivated jacks in building 26 after personnel moves.
- Staff continues work to develop the Code 630 Web-based equipment data base.

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Task Assignment 99-303-00
March 2003

NSSDC COMMON DATA FORMAT (CDF)
GSFC ATR - D. Han
Raytheon ITSS Task Leader - M. Liu
Raytheon ITSS Group Manager - T. Kovalick

TASK OBJECTIVE: The objectives of this task are to carry out computer science research, develop computer software and provide user support for the NSSDC Common Data Format (CDF).

SIGNIFICANT EVENTS:

1. Effort has begun to develop a new CDF-HDF5 data format translator. Staff is studying the HDF5 format, its features and trying to map out the translation strategy between the data types and structures.

2. Staff handled five user questions/requests this month.

CONCERNS AND PROBLEM AREAS:

1. The GZIP compression/decompression option is turned off for 16-bit DOS/Windows 3.x due to its memory constraint.

2. A unusual problem occurs with the older Microsoft C 7.00 compiler in one of the EPOCH parsing routines on DOS/Windows 3.x. It occurs while using the floating point functions and type casting. It is suspected that the Microsoft executables may be getting too large and will require memory overlaying.

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Task Assignment 99-304-00
March 2003

PLES
GSFC ATR - N. James
Raytheon ITSS Task Leader - Dr. D. Williams
Raytheon ITSS Group Manager - T. Kovalick

TASK OBJECTIVE: The objectives of this task are to maintain data bases and metadata (NMC, WWW) for planetary, Earth sciences, and selected astrophysics data (HEASARC, EUVE, HST), provide request support and coordinate updates of user interfaces, coordinate WWW activities, support internal and external data base users, assure data set quality, coordinate planetary data acquisition and Earth science data transition, support educational activities, and coordinate publications.

SIGNIFICANT EVENTS:

- The NSSDC WWW server had a total of 11,197,667 error-free accesses logged for March 2003, a decrease of 8% compared to February 2003.
- Task staff responded to more than 140 e-mail queries and telephone calls from external users and the Request Office.
- Task personnel opened four data sets for newly-arrived Mars Global Surveyor data.
- A task member prepared for Planetary Data System Management Council meeting held on April 2, 2003.
- Task staff added information on 12 newly discovered moons to the Jovian satellite fact sheet.
- Task personnel updated the NSSDC Photo Gallery, Earth Science, Solar Physics, and NSSDC home pages to have the NASA logo rather than the NSSDC logo and to point to the new security/privacy policy page.
- Task member created a new web page stating NASA's security and privacy policies on the NSSDC web server.
- Task staff updated the Rosetta and Mars Express spacecraft records in the database.
- Task personnel continued work on the IMPACT web pages, including addition of new images of Jupiter's satellites.
- Task member wrote up a Goddard "Science Question of the Week" to appear in April 2003.

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Task Assignment 99-305-00
March 2003

INFORMATION (METADATA) SYSTEMS DEVELOPMENT AND UPGRADES
GSFC ATR - Dr. J. Thieman
Raytheon ITSS Task Leader -
Raytheon ITSS Group Manager - T. Kovalick

TASK OBJECTIVE: The objectives of this task are to define and develop information systems and the interfaces thereto, maintain these systems and interfaces and support the generation of reports therefrom, and recommend and participate in the planning of upgrades to necessary support systems and software as appropriate.

SIGNIFICANT EVENTS:

NOST Archiving Tools Suite - Staff has

- Continued coding the first version of the Multifile Package Group Analyzer (MPGA) tape packaging software. The first version of the Module Library is complete. Mapped out the functionality of the By Directory Module and the Templates Library.
- Continued coding the first version of the Multifile Package Group Analyzer (MPGA) tape packaging software.
  - Began testing various module modes and the underlying component libraries.
  - Completed the Template Specification Library and began testing.
  - Completed the Launcher and the Configuration Mode of the By-Directory and began testing with incremental success
- Participated in the meetings with management and operations regarding the upcoming tape migrations. Also held internal meetings and teleconference discussions discussing design, features, and status of software.

ISO Data Archiving - Staff has

- Paricipate in the Spring 2003 ISO Archiving Meeting in Frascati, Italy on 31 March. Agreement was reached to advance the Producer-Archive Interface Document to a public review draft standard. Discussions were held on Archive Certification standards and on the possibility of starting a new effort to update the *Reference Model for an Open Archive Information System (OAIS)*

CCSDS On-Line Information System -

- Many updates to the information for the CCSDS 2003 Spring meetings have been made available.
- Public and private work areas for each CCSDS Subpanel and Working Group have been set up in the Docushare Document Management System. Starting to look at setting up areas based on proposed CCSDS Reorganization.

CCSDS Standards - Staff has

- Reviewed the updated CCSDS Reorganization Proposals. Provided feedback on the updated proposal.
- Created two new versions of the *Orbit Data Messages* document. The first new version separated the previous version into syntax and semantics sections in my view. Second version included a chapter including a Data Entity Dictionary definition of attributes used in the *Orbit Data Messages* document. This chapter replaces the 2 semantics chapters of the first document. Second document also added a PVL semantics chapter and an XML examples chapter. If XML is accepted, additional work will be required to provide semantics.
- Began participation in CCSDS Panel 2 International Workshop in Frascati, Italy. Workshop will continue through 4 April.

Goddard Technical Standards Coordination - Staff has

- Participated in the GSFC Standards Coordination Working Group meeting.
- Updated the web site to detail a number of completed and upcoming GSFC reviews of standards.

STATISTICS: CAOIS: As of 31 March 2003, there were 443 Data Description registration numbers assigned. Of these about 30 of the Data Description registration numbers are reserved for NSSDC use during the Cygnet migration, 45 are reserved for IMAGE ingest, 26 for ISIS ingest, and 2 for Skylab. Data Description Packages for these must be generated.

UPCOMING MILESTONES/EVENTS:

NOST Archiving Tool Suite: Staff will

- Complete coding the first version of the Multifile Package Group Analyzer (MPGA) tape packaging software. This includes coding the main parts of the "VMS-By-Directory", "AIP-Generator", and "VMS-File Getter" Modules.

- Begin coding the multi-file version of the AIP Extractor.
- Continue to participate in tape migration meetings.
- Continue discussions on data description registration processing.

CCSDS Standards: Staff will

- Participate in CCSDS Panel 2 International Workshop in Frascati, Itay from 31 March to 4 April 2003. Participate in CCSDS Technical Steering Group and Management Council Meeting as required in Matera, Italy from 8 April to 11 April 2003.
- Continue review of the CCSDS Reorganization Proposals and provide formal comments as part of the GSFC response, as required.
- Continue work to generate an updated *Orbit Data Messages* standard, which would contain separate semantics and syntax sections. Propose updates using PVL and XML for the syntax when CCSDS Panel 1J responds.

Goddard Technical Standards Participation: Staff will

- Participate as needed in the GSFC Standards Working Group, the NASA Data System Standards Council and the GSFC Standards Review Boards.
- Continue updates for the web site for GSFC Standards Coordination. Update web site to reflect updated standards management.

CAOIS: Staff will

- Register new data description packages as they are submitted. Note that Cygnet migration, IMAGE ingest, ISIS ingest, and Skylab descriptions still need to be submitted.
- Generate annual reports for NASA Control Authority if reports are received from our UARS and JPL Control Authority Offices.
- Generate annual reports for Control Authority Agent if reports are received from our international partners.

Formats Evolution Process - Staff will

- Updating the FEP Web site if any new material is submitted.

ISSUES:

- Overall the proposed CCSDS Reorganization still has many problems in processes in the view of many GSFC participants. The CCSDS Reorganization may have negative impacts on scope and direction of our CCSDS work. We are continuing to work to reach consensus on future directions of the work.

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Task Assignment 99-306-00
March 2003

INFORMATION (METADATA) SYSTEMS DEVELOPMENT AND UPGRADES
GSFC ATR - Dr. J. Thieman
Raytheon ITSS Task Leader
Raytheon ITSS Group Manager - T. Kovalick

TASK OBJECTIVE: The objectives of this task are to define and develop information systems and the interfaces thereto, maintain these systems and interfaces and support the generation of reports therefrom, and recommend and participate in the planning of upgrades to necessary support systems and software as appropriate.

SIGNIFICANT EVENTS:

- The Task Request system was upgraded.

- Work on JIN continued, including: (1) creating a new table to contain information relating Oracle login accounts to IRAND personnel IDs; (2) converting all the operator initials in the med_sign_in_out table to IRAND IDs; (3) correcting an error created by a trigger on the med_dataset table; (4) modifying the use case in the JIN Software Specification document as well as completing the UML modeling and coding for adding/updating media dataset information; (5) meeting with R. Post (QSS) to get feedback on the Dataset Report; (6) implementing changes to the Dataset Report; (7) modifying the "clone" functionality to include cloning of dataset and media associations; and, (8) coding of the sign-in/-out classes.

- Staff members worked with R. Kosby (QSS) to complete reconfiguration of Apache and Tomcat on the Java web server.

- A problem with contact information for Earth Science missions was investigated.

- A total of 18 new CD-ROMs were made available on the CD-ROM catalog.

- A workshop on defining a space physics data dictionary was supported and attended by task personnel.

- Mandatory annual IT security training was finished by one task member.

- A script to alter dataset names for K. Hills (QSS) was written.

- Database performance issues were investigated further.

- A list of dataset ids not found in the ds_old_ids table was created.

UPCOMING MILESTONES/EVENTS:

- Staff will continue work on JIN.

- Meetings on the space physics data dictionary will be supported in Nice and Toulouse, France.

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Task Assignment 99-307-00
March 2003

SUN-EARTH CONNECTION EDUCATION FORUM (SECEF)
GSFC ATR - Dr. J. Thieman
Raytheon ITSS Task Leader - Dr. S. Odenwald
Raytheon ITSS Group Manager - L. Mayo

TASK OBJECTIVE: The objective of this task is to provide administrative support of the SECEF managers and assistance in preparing for educational outreach events, seek opportunities to leverage SECEF activities for broad national impact, and assist in publicity for the SECEF by developing content for a Web site and publications.

SIGNIFICANT EVENTS:

- Live from the Aurora March 18 - Maryland Science Center - More than 300 students and parents participated at the MSC. Icky Fox, Art Poland, Paal Breeck, Steele Hill. Stanley Jones, Troy Cline and myself supported the day, that included question and answer sessions, displays, activities and the Solar MAX Movie. The SED broadcast was attempted for the event.

- Specific Distribution-Educator Packet Requests for Workshop - NASA Network Support Total 7739 distributed.

- Staff e-mailed many GSFC managers and scientists the advanced notice for the Minority University and College Education and Research Partnership Initiative.

- Coordination with the support network continues in preparation for the NOBCChE workshop and exhibit in April 2003. In particular, helped find two EPO leads (Gil Yanow and Stephanie Stockman) as co-presenters.

- Staff provided the Goddard Hispanic community with a small number of CDs and posters for outreach.

- Staff prepared for the SEC community meeting on March 31, 2003 at the Maryland Science Center.

- NSTA (March 26-30, 2003, Philadelphia): completed the coordination and attendance among ~15 SEC attendees and HQ continues. SECEF sent 2100 conference packets to the exhibit. Several members presented a short course on the Student Observation Network. Many also participated in two share-a-thons: All About the Sun and Auroras Using NASA Data for K-12 Earth Science teachers, and Informal Science.

- ITEA (mid March 2003, Nashville): Elaine substituted Troy in an OSS presentation. SECEF sent 300 conference packets to the exhibit.

UPCOMING MILESTONES/EVENTS:

- Staff will continue with execution of the 2003 Sun-Earth Day.

- Staff will continue with planning for Venus Transit 2004.

- Staff will continue with scheduled EPC meetings.

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Task Assignment 99-312-00
March 2003

ANALYSIS SUPPORT FOR THE IMAGE MISSION
GSFC ATR - Dr. J. Green
Raytheon ITSS Task Leader - L. Garcia
Raytheon ITSS Group Manager - T. Kovalick

TASK OBJECTIVE: The objectives of the Analysis support for the IMAGE Mission task are to maintain and update local copies of the IMAGE software suite, create RPI data analysis software, and to create software to be used in correlative studies between IMAGE detectors and between IMAGE and other missions. This task will also support the synthesis of data and theory in the study of Earth's magnetosphere through creation of unique data products and services. This task will make available appropriate documentation for all of these objectives and will support the IMAGE Science Center Web site.

SIGNIFICANT EVENTS:

- Staff added daily spectrograms for the RPI instrument for February 2003 and part of March 2003 to the IMAGE Science Center site.

- Staff updated the IMAGE Science Center meetings page, posting an agenda and information for the Berkeley meeting as well as a meeting in June 2003. Created a page for the 2003 Yosemite conference. Added 43 new references, 22 new abstracts, five new documents, and updated four references. Created new 2002 publications and abstracts pages.

- Staff investigated a problem with the display of information on the RPI page for MSIE 5.1 on the Mac.

- Staff sent quarterly access plots for the IMAGE Science Center and POETRY to J. Green.

- Staff posted a document for L. Garcia which had information regarding RPI information included in CDFs.

- Staff added a link on the IMAGE Science Center home page to an IMAGE "Discoveries" page under development in POETRY.

- Staff tested the Image Analysis Tool developed by S. Christon for use as a browse tool for IMAGE and other data sets. Created a demonstration CD of this tool, IMAGE-RPI spectrograms and Dst and AE indices for J. Green.

- Staff installed IDL 5.6 on Mac OS X and tested the IMAGE software packages that run on IDL including fuview, euv_imtool and the RPI Specwidget. Also confirmed that both UDF dynamically loaded modules (DLM) will work under IDL 5.6.

- Staff wrote a guide to reading FUV UDF data based on requests from J. Frielander for access to the latest FUV data for press releases. With the successful installation of IDL 5.6 staff wrote a step-by-step guide to installing the fuview software, the UDF tool software and loading FUV UDF files onto a Mac running OS 10.2

- Staff continued modifications to manuscript intended for publication to Journal of Geophysical Research based on input from co-authors and reviewers comments.

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Task Assignment 99-313-00
March 2003

COMMUNITY COORDINATED MODELING CENTER
GSFC ATR - Dr. M. Hesse
Raytheon ITSS Task Leader - M. Kuznetsova
Raytheon ITSS Group Manager - T. Kovalick

TASK OBJECTIVE: This task will provide science and software support for Community Coordinated Modeling Center (CCMC). Specific support includes developing and testing of simulation codes for space weather models, performing simulations of realistic space weather events, providing visualization and analysis software, performing comparison of modeling results to satellite measurements, performing research in space plasma physics.

SIGNIFICANT EVENTS:

• Run-on-demand data visualization on the Web has been speeded up for the UCLA-GGCM magnetospheric model by minimizing data processing before the rendition of plot images.

• A presentation for the joint EGS/AGU Spring meeting in Nice, France, has been prepared including handout sheets outlining CCMC's run-on-demand submission and visualization capabilities to perform research.

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